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THE TIMBER INDUSTRIES of NEW HAMPSHIRE and VERMONT

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USDA FOREST SERVICE RESOURCE BULLETIN NE-35
1974
NORTHEASTERN FOREST EXPERIMENT STATION
FOREST SERVICE, U.S. DEPARTMENT OF AGRICULTURE
6816 MARKET STREET, UPPER DARBY, PA. 19082
F. BRYAN CLARK, STATION DIRECTOR

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MANUSCRIPT RECEIVED FOR PUBLICATION 13 MAY 1974

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HIGHLIGHTS

THE 1972 timber-industry surveys showed that, since the 1959 survey in **NEW HAMPSHIRE:**

- Total roundwood output has declined 17 percent to 50.2 million cubic feet.
- Sawlog production has declined 22 percent to 182.0 million board feet.
- Pulpwood production has declined 7 percent to 200.7 thousand cords.
- Veneer-log production has declined 84 percent to 2.1 million board feet.
- Combined production of other products such as cooperage logs, posts and pilings, and dimension, excelsior, and turnery bolts has risen 123 percent to 2.3 million cubic feet.

Since the 1965 survey in **VERMONT**:

- Total roundwood output has declined 1 percent to 36.1 million board feet.
- Sawlog production has risen less than 0.5 percent to 125.2 million board feet.
- Pulpwood production has risen 20 percent to 135.5 thousand cords.
- Veneer-log production has declined 54 percent to 7.0 million board feet.
- Combined production of other products such as poles and pilings, posts, dimension and turnery bolts, and novelty fencing has declined 25 percent to 3.7 million cubic feet.

BACKGROUND

THE FOREST SERVICE of the U.S. Department of Agriculture conducts continuing forest surveys of all states to provide up-to-date information about the timber resources of the Nation. In the 14-state region served by the Northeastern Forest Experiment Station, all states have now been surveyed at least twice. Vermont and New Hampshire are the first states in the Northeast to be inventoried for the third time. The present timber-resource situation, trends in the timber supply between surveys, and projections of future timber-resource levels will be presented in a comprehensive report for these two states in 1975.

This report is the result of a 100-percent canvass of all primary wood manufacturers that were operating in those states in 1972. Pulpwood-production data were gathered as part of the Station's annual survey of pulpwood producers of the Northeast. Veneer-production data were gathered as part of a periodic survey of the Northeast's veneer industry.

Vermont primary manufacturers were contacted through a questionnaire that was mailed by the Vermont Department of Forests and Parks. The Department modified its annual forest-product report in order to incorporate the information that was required for this survey. In addition, a special study of the production and use of minor products was conducted.

In New Hampshire, the county foresters distributed a questionnaire to each active primary manufacturer as they compiled data for the New Hampshire Forest Market Report. They also assisted by contacting firms that failed to respond.

Manufacturing-residues information for Vermont was compiled by the Vermont Agricultural Experiment Station, assisted by a McIntire-Stennis grant. The Station also provided the conversion factors that were used for developing bark and wood residue statistics for New Hampshire.

The authors thank the following individuals who made major contributions to the success of this industry survey: Roger S. Leighton, supervisor of New Hampshire County Foresters; Professor Roy A. Whitmore, Jr., University of Vermont; and Robert A. Farrington, Vermont Department of Forests and Parks.

TIMBER-BASED INDUSTRIES

Past Trends

The original forests of New Hampshire and Vermont contained a greater percentage of coniferous species than the forests of today. White pine was plentiful along the major river valleys and smaller stream courses, especially in southern New Hampshire. Almost pure spruce stands were abundant throughout the White Mountains and Green Mountains.

In the late 1600s and 1700s, when the first settlers arrived, more than 95 percent of the land was forested. The forests inhibited the development of the land for agriculture, so many stands of virgin timber were harvested and cleared, burned, or otherwise removed to provide the open space needed for pasture and tillage. Land-clearing continued for over a century. By the mid-1800s about 50 percent of the total land area in New Hampshire and 68 percent of the land area of Vermont was being used for agricultural purposes.

The earliest commercial timber harvesting was centered in coastal New Hampshire. Mostly pine and oak were cut for the domestic shipbuilding industry and for foreign export from Portsmouth, New Hampshire, a prominent seaport of the day. By 1850 nearly all of the original pine stands of the two states had been cut over, and many of the small sawmills were already using young-growth pine. The growing demand for construction lumber and the sale of public lands provided an added impetus to the development of the spruce lumber industry about 1870. Many high-production sawmills were established in New Hampshire and Vermont to handle the virgin spruce harvest (fig. 1). By 1885 lumber production in both states was fully developed.

Lumber production peaked in Vermont at 430 million board feet in 1889, most of it

Figure 1.—One of the sawmills that processed the virgin spruce harvest on Pigeon Pond near Groton, Vermont, in the late 1890s.

from softwoods,[1] and dropped to 365 million in 1900. The 1900 production was from 500 sawmills. Spruce sawtimber stands in Vermont, close to lumbering communities, were becoming depleted. Record lumber production in 1900 in New Hampshire reached 526 million board feet, and was produced by the state's 600 sawmills. Other forest-based industries had been established in both states to produce shingles, cooperage, bobbin stock, lath, woodenware, and agricultural implements.

Railroads extended their tracks into these states, and settlers and their manufactured necessities were easily transported into the new territories and forest products were efficiently transported to distant markets. Soon a second major forest-based industry—the woodpulp and paper industry—was established in New Hampshire and Vermont.

Vermont's first major woodpulp mill was a groundwood mill that was constructed in Readsboro in 1882, at about the same time that Maine's woodpulp industry expanded into New Hampshire. An 1894 industry census indicated that New Hampshire's pulpmills had reached a rated daily capacity of 225 tons. Pulpmills from both states were included in the 1898 merger of 20 pulpmills when the International Paper Company was founded.

From 1900 onward the New Hampshire and Vermont timber cut started to decline. Although pulpwood production increased over the years, sawlog and other roundwood production decreased. Farming also began to decline during the Civil War, and huge acreages of abandoned fields in both states reverted to tree growth. These abandoned fields, and the areas that were logged heavily before the turn of the century, support the timber stands of today.

[1]Steer, Henry B. Lumber production in the United States, 1799-1946. U.S. Dep. Agric. Misc. Publ. 669. 233 p. 1948.

Present Status

Commercial forest stands once again cover most of the land area of New Hampshire and Vermont, in New Hampshire exceeding 80 percent of the total area and in Vermont slightly less than 75 percent. The natural reseeding of abandoned fields in the southern portion of the two states produced even-aged white pine stands that have been the mainstay of the softwood lumber industry for the past half century.

In the higher pastures and fields of the north, spruce took the place of white pine, and the result has been large acreages of pure spruce with relatively large knots. On the better sites where the natural reproduction was protected from grazing and in areas that were repeatedly burned, hardwoods have become an important component of the regenerating forests.

Lumber production in the two states during the present century has gradually shifted toward hardwoods, as large-diameter softwoods become more difficult to find. Access roads that were constructed in northern New Hampshire during World War II opened up extensive areas of hardwoods that were previously inaccessible. Hardwood is now harvested for pulpwood as well as veneer logs and high-quality sawlogs and boltwood.

Lumber production in New Hampshire has now stabilized at around 180 million board feet annually, and in Vermont at around 150 million board feet. New Hampshire and Vermont each have about 100 active commercial sawmills. Portable sawmills have nearly disappeared since the World War II era when they were so plentiful. In general, sawmills have increased their productive capacities and have become much more efficient, aided by the development of new and improved machinery.

The veneer industry has declined in the past several decades as high-quality old-growth northern hardwood logs have become more difficult to procure. Veneer plants had to modify their equipment to handle small logs if they were to continue to operate. At one time as many as 10 veneer plants were operating in Vermont. Of the four plants that operated in 1972, two were manufacturing veneer from high-quality logs. New Hampshire had one full-time specialty veneer plant operating in 1972.

Present markets for New Hampshire and Vermont hardwoods are primarily in the furniture industry. Lumber produced in these states is consumed by furniture plants as far away as the Carolinas. Low-quality hardwood sawlogs are also finding a ready market from New England pallet manufacturers. Some species of hardwoods provide the raw material for specialty-product industries that are unique to New England. White birch, for example, can be turned, sliced, and shaped into a large assortment of necessary and useful products.

An upsurge in the number of single-family housing starts nationwide during the past 2 years has increased the demand for softwood lumber. This strong demand for construction lumber, together with the use of white pine lumber for furniture, has encouraged an increase in the softwood sawlog harvest of both New Hampshire and Vermont. The increase in the number of operating sawmills in 1972 is an indication that demand is currently high for wood products.

Prospects for the Future

New Hampshire and Vermont timberlands are strategically located close to major eastern population centers. They also contain a wide variety of tree species that are well suited for a variety of forest products. Short-term demand for these products is likely to remain constant or to grow even though technological changes may make certain wood products obsolete.

Although the physical supply of timber seems to be adequate, the character of the developing timber stands and their availability for timber-product production are continually changing. Currently, in our energy-conscious society, the use of wood in construction is being favored over steel and aluminum because it requires far less energy per unit of output to produce. New Hampshire and Vermont timberland, however, is being purchased by nonresident owners for nontimber purposes. Timber harvesting on these lands in the future will depend on the ability of local wood manufacturers and

government agencies to inform these landowners of the need for managing their lands for timber production in addition to the primary use for which this acreage was purchased.

The composition of the regenerating stands —both quality and species mix—may dictate a change in strategy if the resource is to be fully used. Resident timber industries may be called upon to develop new and imaginative ways of extracting, transporting, and processing wood fiber to insure maximum utilization of the resource at a profit. New industries are sure to emerge whose wood requirements are not as stringent as the traditional industries that are operating today.

Lumber will continue to be the region's most important timber product. Hardwood and white pine lumber are certain to be in great demand by New England's growing furniture industry. The scarcity of quality hard maple and yellow birch will continue to plague these manufacturers as well as the local veneer producers. Ultimately, these quality wood users will have to develop new machinery and techniques to capture the quality portions of low-value trees and to accept local species that have not been used extensively for furniture manufacture in the past.

Home construction is potentially a major market for locally manufactured softwood lumber. During short-term economic slowdowns, housing starts and the softwood timber harvest declines. Over the long term, however, building activities are projected upward, and this increased construction will undoubtedly require an increase in the harvest of the softwood resources of both states. If the current expansion of manufacturing facilities continues, the lumber-producing segment of New Hampshire and Vermont timber industries will be in a highly favorable position to compete for local markets with lumber that is shipped in from the western United States.

Utilization of low-grade roundwood that results from commercial harvesting and manufacturing residues is no longer the problem it once was in New Hampshire and Vermont because much of this wood fiber is converted into woodpulp. Several alternative markets also exist. The roundwood is acceptable for pallet lumber or railroad ties. Local tie-treating plants that are responding to plans for revitalizing and upgrading the long neglected eastern railroad system are not able to attract the volume of ties that they now require. They would like to double their production capacity in the next decade.

Substantial interest has been expressed in establishing a particleboard industry in New England, and sites have been examined in both states. The plant would utilize low-grade roundwood and manufacturing residues. Current feasibility studies show that competition for low-quality roundwood is intense and that the reliable sources of manufacturing residues have already been committed to the paper industry. The price that a particleboard plant could afford to pay for the residue material under current economic conditions—including transportation costs—would be less than the amount now being paid for this material at local pulpmills.

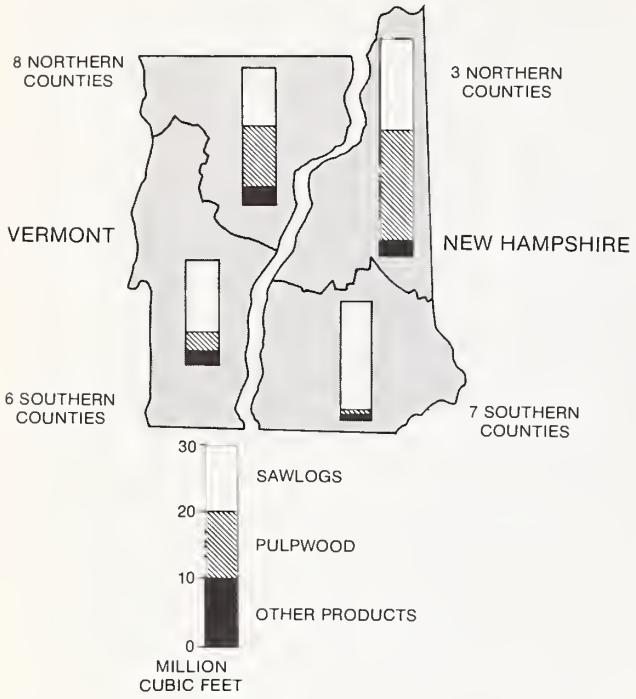
INDUSTRY OVERVIEW

Forest industries used more than 86 million cubic feet of roundwood from the timberlands of New Hampshire and Vermont in 1972. Half of this volume was from softwoods. New Hampshire contributed the greater amount—50 million cubic feet. In recent years the percentage of hardwoods in the harvest in both states has increased, but only in Vermont does the hardwood harvest exceed that of softwoods.

Sawlogs were the major roundwood product of both states in 1972, accounting for 61 percent of the New Hampshire harvest and 55 percent of the Vermont harvest. Pulpwood production ranked second in volume of timber harvested in both states. Other products that made up a minor portion of the harvest were cooperage and veneer logs; dimension, excelsior, and turnery bolts; and poles, posts, and pilings.

A greater portion of the industrial roundwood harvest came from the northern counties of both states in 1972 (fig. 2). Although the seven southern counties of New Hamp-

Figure 2.—Harvest of industrial wood in New Hampshire and Vermont, by regions and major products, 1972.



shire and six southern counties of Vermont produced slightly greater volumes of sawlogs, 90 percent of the combined pulpwood harvest for both states came from the northern counties. The 33-million-cubic-foot harvest from New Hampshire's three northern counties account for 38 percent of the combined harvest.

In New Hampshire, industrial roundwood production has dropped 41 percent in the past 20 years. Production decreased from 85 million cubic feet in 1952 to 50 million cubic feet in 1972. Cooperage and veneer-log production led the decline, decreasing 88 percent and 85 percent respectively since 1952. Although both sawlog and pulpwood production in New Hampshire has declined during the period, the use of hardwoods for these products has risen.

Coos County produced more industrial roundwood in 1972 than any other New Hampshire county. The 22-million-cubic-foot harvest represented 45 percent of the state total. A major contributor to the county's production record was the 182-thousand-cord pulpwood harvest, which represented over 90 percent of the 1972 New Hampshire pulpwood production total. Although the sawlog harvest exceeded that of any other county, it represented only 20 percent of the state total.

Vermont's industrial roundwood harvest has dropped 48 percent in the past 20 years, from 69 million cubic feet in 1952 to 36 million cubic feet in 1972. A decline in the softwood sawlog harvest and veneer-log harvest were major contributors to this.

Essex County, Vermont, was that state's largest producer of industrial roundwood in 1972. As was the case in Coos County, New Hampshire, Essex County was a major producer of pulpwood. The 64-thousand-cord harvest in 1972 represented 47 percent of the Vermont total. Windham County was Vermont's largest sawlog producer in 1972, and Orleans County was the largest producer of such minor products as posts, bolts, and veneer logs.

Between 1952 and 1972 the number of primary wood-using plants that operated in New Hampshire and Vermont dropped from 1,045 to 361. In New Hampshire many of the plants that closed were low-production white pine lumber mills. Fewer low-production lumber-manufacturing plants were closed in Vermont because many of them were producing hardwood lumber and squares for furniture parts. Many bobbin mills, bolter mills, container veneer mills, shingle mills, and excelsior mills ceased operations in both states as the demand for their products dwindled.

SAWLOGS

Sawlog production has been declining during the last century in New Hampshire and Vermont, but sawlogs have always been the major product of the forests of both states. The year 1972 was generally considered to be a good year for the sawmill industry, with heavy demand for both hardwood and softwood lumber products.

In New Hampshire, sawlog production is closely related to white pine lumber production, and in the past the major use of white

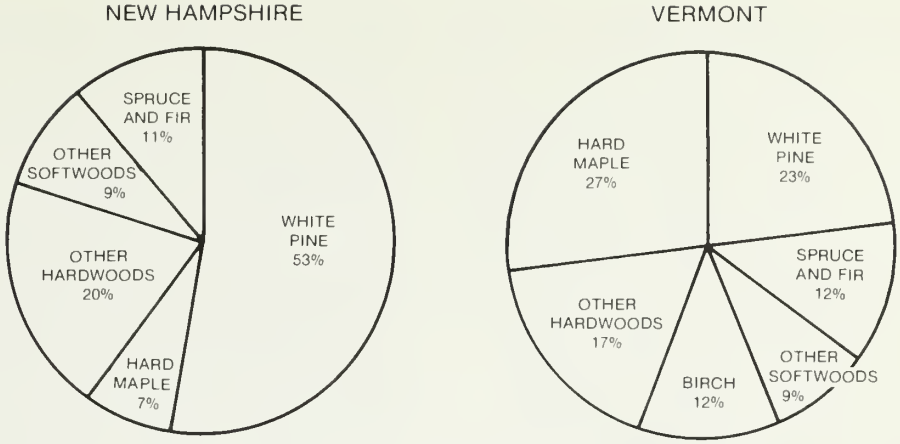


Figure 3.—Sawlog production, by species, in percent, 1972.

pine lumber was for wooden box manufacture. A decline in the wooden box industry in New England was the underlying cause of declining sawlog production in New Hampshire over the years.

The 1972 New Hampshire sawlog production statistics show some important new trends. Although total production was down 22 percent since the previous industry survey in 1959, hardwood sawlog production was up 9 percent. Hardwood sawlog production constituted more than 25 percent of the New Hampshire sawlog harvest for the first time in history (fig. 3). Also spruce and fir are increasing in importance and now constitute 11 percent of the sawlog harvest.

Sawlog production is becoming less dependent upon white pine. Only 53 percent of the 182-million-board-foot sawlog harvest in 1972 was white pine. This represents a 20-percent drop from 1952, when 217 million board feet of the 297-million-board-foot harvest was white pine.

Besides white pine, principal species that were harvested for sawlogs in 1972 included spruce, fir, hemlock, birch, and maple. At one time, nearly all of the softwood lumber used in construction in New Hampshire was shipped in from the western United States. This is no longer true. Well-manufactured eastern softwoods have gained acceptance in local construction markets. Also, the demand and price for hard maple and birch lumber products has been so favorable recently that much of the roundwood that normally would have been harvested for other products is being sawed for lumber.

New Hampshire was a net exporter of both softwood and hardwood sawlogs in 1972. More than 133 million board feet of softwood sawlogs and 49 million board feet of hardwood sawlogs were harvested from New Hampshire timberlands, while 132 million board feet of softwood sawlogs and only 39 million board feet of hardwood sawlogs were received at New Hampshire sawmills. Principal out-of-state recipients of sawlogs from New Hampshire were Vermont and Quebec sawmills. Some 16 million board feet of sawlogs were shipped to each recipient in 1972. At the same time, New Hampshire sawmill operators imported nearly 26 million board feet of sawlogs from other states. Vermont was the principal source of out-of-state logs, accounting for more than half of the total in 1972.

In Vermont, sawlog production in the past has see-sawed back and forth between softwood and hardwood dominance, but until recently white pine has not been a major component of the harvest. At the turn of the century and during World War II, softwood sawlog production was important. In 1900 spruce made up 70 percent of the Vermont sawlog harvest. In 1952, even though the percentage of spruce in the total harvest had dropped to 23 percent, it still was the principal species harvested.

In the 1920s and again in 1972, hardwood sawlog production was important. In 1926 hardwoods accounted for 61 percent of the 137-million-board-foot sawlog harvest. Hard maple and yellow birch were the principal species harvested for sawlogs; they accounted for 45 percent of the total. In 1972 hard maple was again the principal species harvested, and hardwoods made up 56 percent of the 125-million-board-foot harvest. Second in importance, however, based on volume harvested, was white pine, which is in strong demand for use by the furniture industry.

The 1972 Vermont sawlog production statistics show that total production was up less than 0.5 percent since the previous industry survey in 1965, assisted by a 5-percent increase in hardwood sawlog production during that period. On balance, Vermont was a net exporter of sawlogs in 1972. Over 35 million board feet of Vermont sawlogs were shipped out-of-state for manufacture, while Vermont sawmills received over 21 million board feet of sawlogs from other states and Canada. New Hampshire was the principal recipient of Vermont sawlogs and shipper of sawlogs to Vermont sawmills in 1972.

PULPWOOD

Some 336 thousand cords of pulpwood were harvested from New Hampshire and Vermont timberland in 1972, and in addition, 142 thousand cord equivalents of pulp chips were recovered from the primary wood-manufacturing plants of the two states. Although the volume of wood from plant residues is at a record high level, the total roundwood harvest has decreased since the previous industry surveys.

In New Hampshire pulpwood production from roundwood has decreased 7 percent since the 1959 industry survey to 201 thousand cords. This decrease is directly related to a diminishing pulpwood harvest from softwoods (fig. 4). Since 1959 the softwood harvest decreased from 119 thousand cords to 64 thousand cords, while the hardwood harvest increased from 112 thousand cords to 137 thousand cords. This change in harvest mix was brought about by changes in pulping technology that have occurred in New Hampshire as well as the Nation as a whole. Two decades ago most of the New Hampshire pulpwood harvest was sent to sulfite pulpmills, which preferred softwoods. Today, the state's three remaining pulpmills are semichemical or sulfate pulpmills, which mainly prefer hardwoods.

In 1972 over 98 percent of the roundwood harvest from hardwoods, and 75 percent of the hardwood chip production from plant residues in New Hampshire, were shipped to local pulpmills. In contrast, 50 percent of the roundwood harvest from softwoods, and 49 percent of the softwood chip production,

Figure 4.—New Hampshire pulpwood production, in percent, 1972.

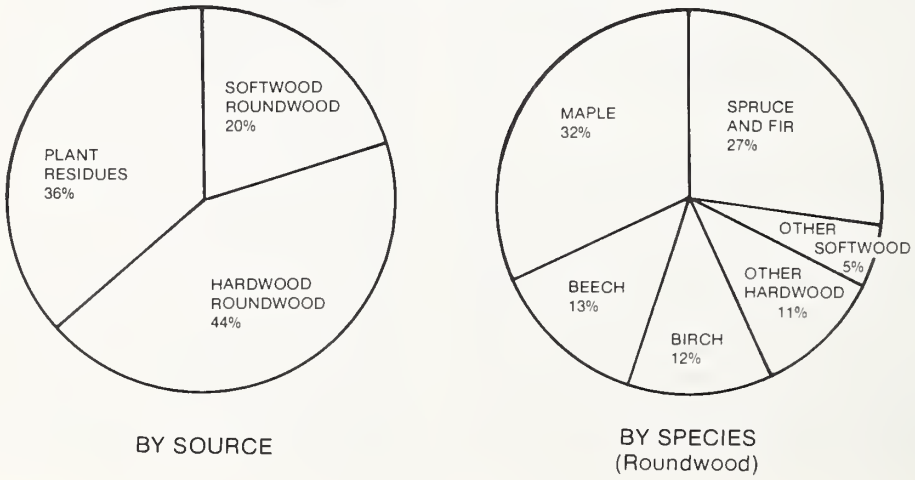


Figure 5.—Vermont pulpwood production, in percent, 1972.

BY SOURCE

BY SPECIES (Roundwood)

were shipped out-of-state for conversion into woodpulp. These trends in production and shipments are likely to continue until all of the northern New England sulfite pulpmills have ceased operations or have converted to other pulping processes.

Pulpwood production trends in Vermont have been similar to those of New Hampshire; but since Vermont is not a major woodpulp producer, the state's harvest has fluctuated with changes in the demand for pulpwood by pulpmills in neighboring states. Since the 1965 industry survey in Vermont, pulpwood production from roundwood rose 20 percent to 135 thousand cords. Softwood production decreased 35 percent between surveys, while hardwood production increased more than 200 percent.

In 1972, 81 percent of the Vermont pulpwood production came from roundwood (fig. 5). Eighty percent of the state's 57-thousand-cord softwood harvest and all of the 78-thousand-cord hardwood harvest was shipped to other states for manufacture. In addition, 31 thousand cord equivalents of pulp chips from plant residues were shipped to pulpmills in other states. New Hampshire was the principal recipient of hardwood pulpwood from Vermont and New York was the principal recipient of softwood pulpwood.

OTHER TIMBER PRODUCTS

Veneer Logs and Bolts

More than 9 million board feet of veneer logs were harvested in New Hampshire and Vermont in 1972. This is a 68-percent decrease in production since 1952, when nearly 29 million board feet of logs were harvested. New Hampshire now has only one full-time specialty veneer plant operating in the state, thus most of the state's entire 2-million-board-foot harvest was shipped to Vermont for manufacture in 1972. In Vermont, 4 of the 8 veneer plants that were operating in 1968 have closed, and veneer-log receipts plunged from 19 million board feet in 1968 to 10 million board feet in 1972. Beech and yellow birch are preferred veneer-log species, accounting for 52 percent of Vermont's 1972 harvest and 64 percent of the plant receipts.

Hardwood Bolts

New Hampshire and Vermont have numerous wood processors that manufacture one or more specialty items from hardwood bolts. Generally these bolts are turned, routed, or otherwise shaped into a blank for such finished items as paint brush handles,

spindles, chair rungs, and ax handles, or are sawed into squares for the furniture industry. Nearly 2 million cubic feet of hardwood bolts from New Hampshire and 2.5 million cubic feet of hardwood bolts from Vermont were harvested for these uses in 1972. This represented 11 percent of the New Hampshire hardwood harvest and 17 percent of the Vermont hardwood harvest.

The northern New England bobbin industry traces its beginnings to the time when New England was the center of the Nation's textile industry. The hard maple and birch used by this industry are ideally suited for bobbin and spindle manufacture. After World War II the textile industry moved south, and over the years technology and larger high-production machines have lessened the demand for bobbins and spindles; but no one has yet perfected a suitable substitute for these items. In the last two decades the number of bobbin plants in New Hampshire and Vermont has dropped from 31 to 5.

Two industries that were important in the past have single representatives that continue to operate. In Vermont a single bowl mill is the last representative of a once thriving woodenware industry (fig. 6). The mill utilizes a specially designed lathe to cut bowls from beech, birch, and hard maple bolts. The bowls are a popular tourist item. In New Hampshire a single excelsior mill was still operating in 1972. At one time excelsior was as popular a padding as the wooden boxes in which bulk freight was shipped. The demise of these industries contributed to a lower timber harvest in New Hampshire.

Figure 6.—Vermont's only remaining wooden bowl mill, at Granville, uses a specially designed lathe to cut bowls from hardwood bolts.

Other

The Nation's only remaining producer of watertight white pine barrels is located in New Hampshire. At one time this 102-year-old plant produced barrels, buckets, and pails used for storing and transporting everything from pickles to gunpowder. As late as the 1960s the plant produced barrels primarily for food products just as it had done for nearly a century. In the past 2 years, the company has been revitalized and has increased its sales 40 percent by adding a line of novelty and gift items such as fancy cigar kegs, ice buckets, and flower planters. These new items should insure the perpetuation of this colorful industry. The plant was producing 1,250 barrels and pails per day in 1972.

The spruce clapboard industry was once an important segment of the wood-products industry in the Northeast, but many years ago demand declined as builders switched to the use of red cedar siding from the West. Today, Vermont still has two clapboard mills that produce radially sawed spruce clapboards. Because this type of clapboard was dominant in home construction in the past, a limited demand for clapboards will persist in the restoration and period construction markets. The machinery used to manufacture these radially sawed clapboards is very old and employs a processing method that is essentially unchanged since the machines were originally developed in Montpelier, Vermont, in the middle 1800s. Expansion of

this particular industry is stymied by the limited demand for clapboards and a scarcity of the high-quality red or white spruce logs from which the clapboards are manufactured.

One housing-related market that has expanded in the last 5 years, however, is the pre-cut log cabin business. Although cabin logs have been produced in limited quantities for many years, the recent trend for vacation and second homes from rustic products has encouraged large-scale production of pre-cut log cabins. At present Vermont has two high-production cabin producers that use about 5 million board feet of logs annually. In addition, there are a number of small cabin manufacturers operating in both New Hampshire and Vermont. One of Vermont's high-production cabin manufacturers uses white pine for the cabin shells, while the other prefers spruce. Some of the smaller cabin manufacturers also use red pine for cabin shells. The future looks bright for this growing industry as long as the supply of spruce and pine logs suitable for log-cabin manufacture remains adequate.

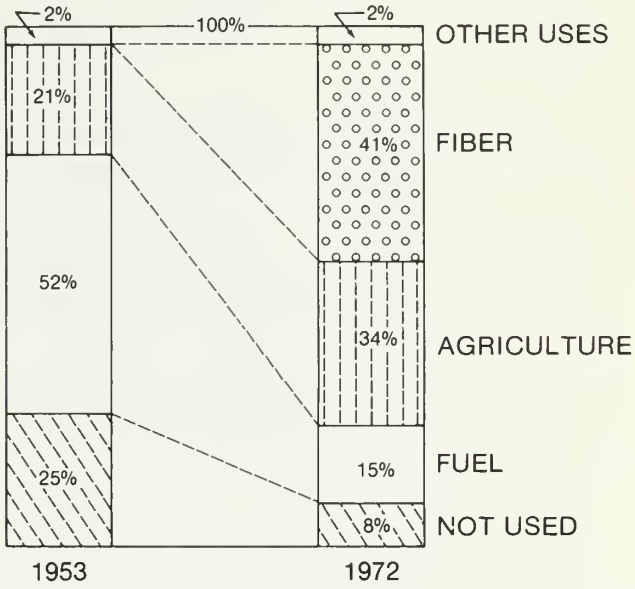
MANUFACTURING RESIDUES

Nearly 28 million cubic feet of residues were generated by the primary wood manufacturers in New Hampshire and Vermont in 1972. Twenty-two million cubic feet of this total was woody material and 6 million cubic feet was bark. Some 13 million cubic feet of the wood residue material was suitable for conversion into chips for fiber products.

Eighty-five percent of all residues—23 million cubic feet—were recovered and used. While only 65 percent of the bark residue was used, 90 percent of the wood residue was used. A higher percent of bark residue was recovered and used in New Hampshire than in Vermont. Vermont was more successful in the recovery and use of fine wood residues.

When the results of our 1972 study in Vermont were compared to a similar study[2] that was made in 1953, some important trends were identified (fig. 7).

Figure 7.—Trends in manufacturing-residue use in Vermont, 1953 and 1972. In 1953, fiber that constituted less than 0.5 percent of the total was included in the other-uses category.



- 17 percent more of the manufacturing residue volume generated in 1972 was being used than in 1953.
- 37 percent less of the manufacturing residue volume generated in 1972 was being used for fuel—both industrial and domestic—than in 1953.
- 41 percent more of the manufacturing residue volume generated in 1972 was being used for fiber-product chips than in 1953.

In New Hampshire, the largest single use of wood residues in 1972 was for fiber products. Nearly 6 million cubic feet were recovered for this purpose, most of which was from coarse wood material such as slabs and edgings. Nearly 2 million cubic feet of bark were used for mulch, animal bedding, and other agriculture-related uses.

[2]Vermont Forest Service. Biennial report of the Vermont Forest Service, 1953-54. 56 p. Montpelier. 1954.

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23 Pulpwood production in Vermont by types of pulpwood, 1963-1972

24 Veneer log production and receipts, by species and origin of logs, Vermont, 1972

25 Production and disposition of manufacturing residues, by types of residues, types of uses, and industry sources, Vermont, 1972

Table 1.—*Production of industrial roundwood in New Hampshire and Vermont, by states, species groups, and major products, 1972*

State and species group	Sawlogs	Pulpwood	Other products[1]
	Thousand bd. ft.[2]	*Standard cords*	*Thousand cu. ft.*
New Hampshire:			
Softwood	133,463	63,873	433
Hardwood	48,519	136,835	2,246
Total	181,982	200,708	2,679
Vermont:			
Softwood	55,224	56,900	1,150
Hardwood	69,949	78,619	3,673
Total	125,173	135,519	4,823
Both states:			
Softwood	188,687	120,773	1,583
Hardwood	118,468	215,454	5,919
Total	307,155	336,227	7,502

[1]Includes veneer and cooperage logs; posts and pilings, dimension, excelsior, and turnery bolts; and novelty fencing.
[2]International ¼-inch rule.

Table 2.—*Change in output of timber products in New Hampshire and Vermont between 1952 and 1972*

State and year	Sawlogs	Pulpwood	Veneer logs	Other products[1]
	Million bd. ft.[2]	*Thousand standard cords*	*Million bd. ft.*	*Thousand cu. ft.*
New Hampshire:				
1952	297.0	247.5	14.1	3,716
1972	182.0	200.7	2.1	2,346
Change (%)	-39	-19	-85	-37
Vermont:				
1952	269.7	211.7	14.6	3,686
1972	125.2	135.5	7.0	3,699
Change (%)	-54	-36	-52	+([3])
Both states:				
1952	566.7	459.2	28.7	7,402
1972	307.2	336.2	9.1	6,045
Change (%)	-46	-27	-68	-18

[1]Includes cooperage logs, poles, posts, and pilings; dimension, excelsior, and turnery bolts; and novelty fencing.
[2]International ¼-inch log rule.
[3]Less than 0.5 percent.

Table 3.—*Sawlog production in New Hampshire and Vermont, by species groups and states where shipped, 1972*

[In millions of board feet, International ¼-inch log rule]

State and species group	Harvested and retained in state	Shipped to other states or provinces						Total production
		Maine	Massachusetts	New Hampshire	New York	Vermont	Quebec	
				NEW HAMPSHIRE				
Softwood	113.3	0.1	2.5	—	—	8.6	9.0	133.5
Hardwood	31.9	2.3	.3	—	—	7.4	6.6	48.5
Total	145.2	2.4	2.8	—	—	16.0	15.6	182.0
				VERMONT				
Softwood	38.6	—	0.3	7.1	0.7	—	8.5	55.2
Hardwood	51.4	(1)	3.1	6.0	5.7	—	3.8	70.0
Total	90.0	(1)	3.4	13.1	6.4	—	12.3	125.2

[1]Less than 50 thousand board feet.

Table 4.—*Sawlog receipts in New Hampshire and Vermont, by species groups and origin of shipments, 1972*

[In millions of board feet, International ¼-inch log rule]

State and species group	Harvested and retained in state	Origin of shipments						Total receipts
		Maine	Massachusetts	New Hampshire	New York	Vermont	Quebec	
				NEW HAMPSHIRE				
Softwood	113.3	9.5	2.2	—	—	7.1	—	132.1
Hardwood	31.9	.5	.4	—	—	6.0	—	38.8
Total	145.2	10.0	2.6	—	—	13.1	—	170.9
				VERMONT				
Softwood	38.6	0.7	1.2	8.6	(1)	—	—	49.1
Hardwood	51.4	.7	2.0	7.4	0.4	—	0.4	62.3
Total	90.0	1.4	3.2	16.0	0.4	—	0.4	111.4

[1]Less than 50 thousand board feet.

Table 5.—*Number of operating primary wood manufacturing plants in New Hampshire and Vermont, by type of plant and sawmill production class, 1952 and 1972*

Type of plant and production class[1]	New Hampshire		Vermont	
	1952	1972	1952	1972
Sawmills:				
Under 50 thousand bd. ft.	116	36	72	67
50 to 199 thousand bd. ft.	85	26	102	34
200 to 499 thousand bd. ft.	71	15	95	26
500 to 999 thousand bd. ft.	78	11	69	6
1 million bd. ft. or over	156	54	87	37
All production classes	506	142	425	170
Turnings and square mills	21	10	46	17
Pulpmills	3	2	2	1
Veneer mills	3	1	10	4
Other plants[2]	24	4	5	10
All types of plants	557	159	488	202

[1]Based on sawlog receipts.
[2]Includes clapboard, woodenware, excelsior, shingle, and cooperage plants, novelty fence mills, and specialty mills.

Table 6.—*Volume of plant manufacturing residues used in New Hampshire and Vermont, by types of use, states, and kinds of material, 1972*

State and kind of material	Relation of used residues to total residues	Type of use				
		Total	Fiber[1]	Fuel[2]	Agricultural[3]	Other[4]
	Percent	*Thousand cubic feet*				
New Hampshire:						
Bark	72	2,334	—	397	1,937	—
Coarse	90	6,322	5,582	632	—	108
Fine	86	4,699	255	242	4,202	—
Total	85	13,355	5,837	1,271	6,139	108
Vermont:						
Bark	55	1,381	—	386	976	19
Coarse	90	5,083	3,852	1,086	—	145
Fine	94	3,632	—	363	3,192	77
Total	84	10,096	3,852	1,835	4,168	241
Both states:						
Bark	65	3,715	—	783	2,913	19
Coarse	90	11,405	9,434	1,718	—	253
Fine	90	8,331	255	605	7,394	77
Total	85	23,451	9,689	3,106	10,307	349

[1]Volume used for pulp and other fiber products.
[2]Includes both industrial and domestic use.
[3]Includes chicken litter, livestock bedding, and mulch.
[4]Includes fencing and wood novelty items.

Table 7.—*Roundwood production in New Hampshire, by species and major products, 1972*

Species group	Product			
	Sawlogs	Veneer logs	Pulpwood	Other products[1]
	Thousand board feet		*Standard cords*	*Thousand cubic feet*
Softwood:				
Hemlock	15,167	—	5,075	35
White pine	96,919	—	1,741	375
Spruce and fir	20,078	—	53,936	4
Other softwoods	1,299	—	3,121	19
Total	133,463	—	63,873	433
Hardwood:				
Ash	654	6	5,473	5
Beech	3,423	181	25,998	207
White birch	7,367	321	13,684	1,144
Yellow birch	9,472	1,064	10,947	335
Elm	92	—	4,105	12
Hard maple	12,805	191	24,630	132
Soft maple	4,165	117	39,142	36
Oaks	9,429	182	6,842	33
Other hardwoods	1,112	5	6,014	9
Total	48,519	2,067	136,835	1,913
All species	181,982	2,067	200,708	2,346

[1]Includes cooperage logs, posts and pilings, and dimension, excelsior, and turnery bolts.

Table 8.—*Change in industrial roundwood production in New Hampshire between 1959 and 1972*

Product	All species			Softwoods			Hardwoods		
	1959	1972	Change	1959	1972	Change	1959	1972	Change
	Thousand cubic feet		*Percent*	*Thousand cubic feet*		*Percent*	*Thousand cubic feet*		*Percent*
Sawlogs	38,900	30,466	-22	31,700	22,649	-29	7,200	7,817	+9
Veneer logs	2,100	333	-84	—	—	—	2,100	333	-84
Cooperage logs	600	335	-44	500	335	-33	100	—	—
Pulpwood	18,400	17,060	-7	9,500	5,429	-43	8,900	11,631	+31
Other products[1]	450	2,011	+347	179	98	-45	271	1,913	+606
Total	60,450	50,205	-17	41,879	28,511	-32	18,571	21,694	+17

[1]Includes posts and pilings, and dimension, excelsior, and turnery bolts.

Table 9.—*Industrial roundwood harvest for New Hampshire by counties, species groups, and major products, 1972*

[In thousands of cubic feet]

County and species group	Timber products			Total
	Sawlogs	Pulpwood	Other	
Belknap:				
Softwood	835	2	—	837
Hardwood	82	—	—	82
Total	917	2	—	919
Carroll:				
Softwood	1,507	411	1	1,919
Hardwood	481	423	939	1,843
Total	1,988	834	940	3,762
Cheshire:				
Softwood	1,818	—	17	1,835
Hardwood	541	—	12	553
Total	2,359	—	29	2,388
Coos:				
Softwood	3,040	4,560	—	7,600
Hardwood	3,068	10,944	792	14,804
Total	6,108	15,504	792	22,404
Grafton:				
Softwood	3,579	241	[1]	3,820
Hardwood	1,876	254	299	2,429
Total	5,455	495	299	6,249
Hillsboro:				
Softwood	2,920	72	40	3,032
Hardwood	442	—	37	479
Total	3,362	72	77	3,511
Merrimack:				
Softwood	4,070	—	36	4,106
Hardwood	693	—	89	782
Total	4,763	—	125	4,888
Rockingham:				
Softwood	2,315	72	284	2,671
Hardwood	173	—	1	174
Total	2,488	72	285	2,845
Strafford:				
Softwood	596	71	51	718
Hardwood	42	—	66	108
Tptal	638	71	117	826
Sullivan:				
Softwood	1,969	—	4	1,973
Hardwood	419	10	11	440
Total	2,388	10	15	2,413
All counties:				
Softwood	22,649	5,429	433	28,511
Hardwood	7,817	11,631	2,246	21,694
Total	30,466	17,060	2,679	50,205

[1]Less than 500 cubic feet.

Table 10.—*Sawlog production and receipts in New Hampshire, by counties and species groups, 1972*

[In thousands of board feet, International ¼-inch rule]

County	Production		Receipts	
	Softwoods	Hardwoods	Softwoods	Hardwoods
Belknap	4,922	509	2,072	402
Carroll	8,880	2,988	13,516	2,649
Cheshire	10,714	3,356	7,907	2,232
Coos	17,912	19,043	9,956	8,354
Grafton	21,092	11,644	21,861	12,398
Hillsboro	17,204	2,745	13,875	1,709
Merrimack	23,982	4,300	25,559	4,300
Rockingham	13,644	1,075	13,105	672
Strafford	3,513	260	6,947	780
Sullivan	11,600	2,599	17,279	5,291
All counties	133,463	48,519	132,077	38,787
All species	181,982		170,864	

Table 11.—*Species composition of sawlogs produced in New Hampshire, for selected years*

Species	1905[1]	1926[1]	1952	1972
	Percent	*Percent*	*Percent*	*Percent*
Softwoods:				
Hemlock	9	9	12	8
White pine	62	64	73	53
Spruce and fir	18	13	4	11
Other softwoods	1	—	—	1
Total	90	86	89	73
Hardwoods:				
Beech	1	2	1	2
Birch	2	5	4	9
Maple	1	3	3	9
Oak	2	3	2	5
Other hardwoods	4	1	1	2
Total	10	14	11	27
All species	100	100	100	100
Volume of harvest (Million bd. ft.)	340.7	243.0	297.0	182.0

[1]Based on lumber production.

Table 12.—*Sawlog production in New Hampshire, by counties, species groups, and location of manufacture, 1972*

[In thousands of board feet, International ¼-inch rule]

County and species group	Retained in the county	Shipped to other counties	Shipped out of state	Total production
Belknap:				
Softwood	1,780	3,142	—	4,922
Hardwood	392	117	—	509
Total	2,172	3,259	—	5,431
Carroll:				
Softwood	8,396	484	—	8,880
Hardwood	1,762	171	1,055	2,988
Total	10,158	655	1,055	11,868
Cheshire:				
Softwood	6,446	1,939	2,329	10,714
Hardwood	1,736	804	816	3,356
Total	8,182	2,743	3,145	14,070
Coos:				
Softwood	7,329	64	10,519	17,912
Hardwood	4,887	2,728	11,428	19,043
Total	12,216	2,792	21,947	36,955
Grafton:				
Softwood	14,780	2,056	4,256	21,092
Hardwood	7,350	1,605	2,689	11,644
Total	22,130	3,661	6,945	32,736
Hillsboro:				
Softwood	11,603	4,601	1,000	17,204
Hardwood	1,585	1,100	60	2,745
Total	13,188	5,701	1,060	19,949
Merrimack:				
Softwood	19,978	4,004	—	23,982
Hardwood	3,683	617	—	4,300
Total	23,661	4,621	—	28,282
Rockingham:				
Softwood	9,741	2,378	1,525	13,644
Hardwood	663	259	153	1,075
Total	10,404	2,637	1,678	14,719
Strafford:				
Softwood	2,802	650	61	3,513
Hardwood	250	10	—	260
Total	3,052	660	61	3,773
Sullivan:				
Softwood	9,509	1,569	522	11,600
Hardwood	1,608	627	364	2,599
Total	11,117	2,196	886	14,199
All counties:				
Softwood	92,364	20,887	20,212	133,463
Hardwood	23,916	8,038	16,565	48,519
Total	116,280	28,925	36,777	181,982

Table 13.—*Sawlog receipts in New Hampshire, by counties, species groups, and sources of logs, 1972*

[In thousands of board feet, International ¼-inch rule]

County and species groups	Source of logs			Total receipts
	Harvested within the county	Harvested in other counties	Harvested in other states	
Belknap:				
Softwood	1,780	292	—	2,072
Hardwood	392	10	—	402
Total	2,172	302	—	2,474
Carroll:				
Softwood	8,396	1,020	4,100	13,516
Hardwood	1,762	701	186	2,649
Total	10,158	1,721	4,286	16,165
Cheshire:				
Softwood	6,446	795	666	7,907
Hardwood	1,736	442	54	2,232
Total	8,182	1,237	720	10,139
Coos:				
Softwood	7,329	23	2,604	9,956
Hardwood	4,887	633	2,834	8,354
Total	12,216	656	5,438	18,310
Grafton:				
Softwood	14,780	1,594	5,487	21,861
Hardwood	7,350	2,693	2,355	12,398
Total	22,130	4,287	7,842	34,259
Hillsboro:				
Softwood	11,603	1,048	1,224	13,875
Hardwood	1,585	124	—	1,709
Total	13,188	1,172	1,224	15,584
Merrimack:				
Softwood	19,978	5,581	—	25,559
Hardwood	3,683	617	—	4,300
Total	23,661	6,198	—	29,859
Rockingham:				
Softwood	9,741	744	2,620	13,105
Hardwood	663	9	—	672
Total	10,404	753	2,620	13,777
Strafford:				
Softwood	2,802	3,515	630	6,947
Hardwood	250	460	70	780
Total	3,052	3,975	700	7,727
Sullivan:				
Softwood	9,509	6,275	1,495	17,279
Hardwood	1,608	2,349	1,334	5,291
Total	11,117	8,624	2,829	22,570
All counties:				
Softwood	92,364	20,887	18,826	132,077
Hardwood	23,916	8,038	6,833	38,787
Total	116,280	28,925	25,659	170,864

Table 14.—*Pulpwood production in New Hampshire, by types of pulpwood, 1963-1972*

[In thousands of rough cords[1]]

Year	All types	Type of pulpwood		
		Roundwood		Chipped residues[2]
		Softwoods	Hardwoods	
1963	222.0	83.8	96.5	41.7
1964	240.0	108.3	77.3	54.4
1965	250.5	125.3	75.1	50.1
1966	284.9	112.8	110.4	61.7
1967	320.2	112.9	124.9	82.4
5-year total	1,317.6	543.1	484.2	290.3
1968	335.5	92.8	157.1	85.6
1969	319.3	81.2	147.3	90.8
1970	304.5	47.2	151.9	105.4
1971	329.3	96.0	141.1	92.2
1972	311.4	63.9	136.8	110.7
5-year total	1,600.0	381.1	734.2	484.7

[1]128 cubic feet of wood, bark, and air space.
[2]Rough cord equivalents.

Table 15.—*Production and disposition of manufacturing residues, by types of residues, types of uses, and industry sources, New Hampshire, 1972*

[In thousands of cubic feet]

Source industry	Type of use	Type of residue			All types
		Bark	Coarse[1]	Fine[2]	
Lumber	Fiber	—	5,421	255	5,676
	Fuel[3]	308	370	129	807
	Agricultural[4]	1,899	—	4,095	5,994
	Other[5]	—	102	—	102
	All uses	2,207	5,893	4,479	12,579
	Unused	876	696	730	2,302
Other industries[6]	Fiber	—	161	—	161
	Fuel	89	262	113	464
	Agricultural	38	—	107	145
	Other	—	6	—	6
	All uses	127	429	220	776
	Unused	15	34	18	67
All industries	Fiber	—	5,582	255	5,837
	Fuel	397	632	242	1,271
	Agricultural	1,937	—	4,202	6,139
	Other	—	108	—	108
	All uses	2,334	6,322	4,699	13,355
	Unused	891	730	748	2,369

[1]Coarse residues include slabs, edgings, trimmings, and other material suitable for chipping.
[2]Fine residues include sawdust, shavings, and other material considered unsuitable for chipping.
[3]Includes both domestic and industrial fuel.
[4]Includes livestock bedding, chicken litter, and farm and horticultural mulch.
[5]Includes fencing and wood novelty items.
[6]Excludes woodpulp industry.

Table 16.—*Roundwood production in Vermont, by species and major products, 1972*

Species group	Product			
	Sawlogs	Veneer logs	Pulpwood	Other products
	Thousand board feet		*Standard cords*	*Thousand cubic feet*
Softwood:				
Hemlock	10,141	—	3,435	—
White pine	29,043	—	2,447	3
Spruce and fir	15,337	—	46,629	55
Other softwoods	703	—	4,389	1,092
Total	55,224	—	56,900	1,150
Hardwood:				
Ash	3,348	7	991	646
Beech	7,252	2,473	8,293	453
White birch	2,807	1,326	4,455	234
Yellow birch	11,641	1,154	31,075	166
Elm	725	459	2,294	4
Hard maple	33,450	560	11,695	754
Soft maple	4,750	569	8,769	—
Oaks	3,290	407	601	104
Other hardwoods	2,686	22	10,446	188
Total	69,949	6,977	78,619	2,549
All species	125,173	6,977	135,519	3,699

Table 17.—*Change in industrial roundwood production in Vermont between 1965 and 1972*

Product	All species			Softwoods			Hardwoods		
	1965	1972	Change	1965	1972	Change	1965	1972	Change
	Thousand cubic feet		*Percent*	*Thousand cubic feet*		*Percent*	*Thousand cubic feet*		*Percent*
Sawlogs	19,637	19,729	(1)	8,883	8,460	-5	10,754	11,323	+5
Veneer logs	2,469	1,124	-54	—	—	—	2,469	1,124	-54
Pulpwood[2]	9,605	11,519	+20	7,395	4,836	-35	2,210	6,683	+202
Poles and posts	76	435	+472	68	349	+413	8	86	+975
Other products	4,824	3,264	-32	293	801	+173	4,531	2,463	-46
Total	36,611	36,071	-1	16,639	14,446	-13	19,972	21,625	+8

[1]Less than 0.5 percent.
[2]Pulpwood volume in cubic feet for 1965 does not agree with volume shown in table 28, The Timber Resources of Vermont (USDA Forest Service Resource Bulletin NE-12) because of differences in conversion factors.

Table 18.—*Industrial roundwood harvest for Vermont, by counties, species groups, and major products, 1972*

[In thousands of cubic feet]

County and species group	Timber products			Total
	Sawlogs	Pulpwood	Other[1]	
Addison:				
Softwood	363	186	96	645
Hardwood	1,219	235	336	1,790
Total	1,582	421	432	2,435
Bennington:				
Softwood	378	68	4	450
Hardwood	1,576	263	242	2,081
Total	1,954	331	246	2,531
Caledonia:				
Softwood	1,074	574	136	1,784
Hardwood	261	614	338	1,213
Total	1,335	1,188	474	2,997
Chittenden:				
Softwood	248	2	7	257
Hardwood	357	27	113	497
Total	605	29	120	754
Essex:				
Softwood	671	1,522	79	2,272
Hardwood	951	3,947	329	5,227
Total	1,622	5,469	408	7,499
Franklin:				
Softwood	191	325	—	516
Hardwood	704	41	152	897
Total	895	366	152	1,413
Grand Isle:				
Softwood	—	—	9	9
Hardwood	3	—	—	3
Total	3	—	9	12
Lamoille:				
Softwood	714	269	19	1,002
Hardwood	951	57	380	1,388
Total	1,665	326	399	2,390
Orange:				
Softwood	584	1	10	595
Hardwood	484	4	132	620
Total	1,068	5	142	1,215
Orleans:				
Softwood	432	684	650	1,766
Hardwood	566	765	282	1,613
Total	998	1,449	932	3,379
Rutland:				
Softwood	550	251	49	850
Hardwood	965	498	648	2,111
Total	1,515	749	697	2,961
Washington:				
Softwood	803	114	31	948
Hardwood	547	—	219	766
Total	1,350	114	250	1,714
Windham:				
Softwood	1,479	383	54	1,916
Hardwood	1,217	8	57	1,282
Total	2,696	391	111	3,198

Continued

Table 18.—Continued

County and species group	Timber products			Total
	Sawlogs	Pulpwood	Other[1]	
Windsor:				
Softwood	973	457	6	1,436
Hardwood	1,468	224	445	2,137
Total	2,441	681	451	3,573
All Counties:				
Softwood	8,460	4,836	1,150	14,446
Hardwood	11,269	6,683	3,673	21,625
Total	19,729	11,519	4,823	36,071

[1]Includes posts; poles, piling; veneer logs; handle, bowl, bobbin, dimension, and excelsior bolts; and novelty fencing and rails.

Table 19.—*Sawlog production and receipts in Vermont, by counties and species groups, 1972*

[In thousands of board feet, International ¼-inch rule]

County	Production		Receipts	
	Softwoods	Hardwoods	Softwoods	Hardwoods
Addison	2,373	7,570	1,046	10,572
Bennington	2,469	9,780	2,854	9,914
Caledonia	7,014	1,618	2,991	2,016
Chittenden	1,618	2,217	4,180	4,824
Essex	4,377	5,902	3,012	4,407
Franklin	1,249	4,368	429	2,188
Grand Isle	—	17	—	—
Lamoille	4,663	5,901	1,949	7,390
Orange	3,809	3,006	3,839	4,028
Orleans	2,819	3,511	398	194
Rutland	3,588	5,991	2,700	523
Washington	5,239	3,398	3,721	53
Windham	9,653	7,555	11,123	9,404
Windsor	6,353	9,115	10,849	6,807
All counties	55,224	69,949	49,091	62,320
All species	125,173		111,411	

Table 20.—*Species composition of sawlogs produced in Vermont, for selected years*

Species	1900	1926	1952	1972
	Percent	*Percent*	*Percent*	*Percent*
Softwoods:				
Hemlock	11	10	17	8
White pine	5	8	19	23
Spruce and fir	70	21	23	12
Other softwoods	(1)	(1)	2	1
Total	86	39	61	44
Hardwoods:				
Ash	(1)	3	2	3
Basswood	1	2	1	(1)
Beech	—	9	5	6
Birch	4	18	11	12
Maple	5	27	17	31
Oak	2	1	2	3
Other hardwoods	2	1	1	1
Total	14	61	39	56
All species	100	100	100	100
Volume of harvest (Million bd. ft.)	365.8	137.0	269.7	125.2

[1]Less than 0.5 percent.

Table 21.—*Sawlog production in Vermont, by counties, species groups, and location of manufacture, 1972*

[In thousands of board feet, International ¼-inch rule]

County and species group	Retailed in the county	Shipped to other counties	Shipped out of state	Total production
Addison:				
Softwood	949	1,173	251	2,373
Hardwood	5,183	834	1,553	7,570
Total	6,132	2,007	1,804	9,943
Bennington:				
Softwood	1,898	300	271	2,469
Hardwood	6,433	1,222	2,125	9,780
Total	8,331	1,522	2,396	12,249
Caledonia:				
Softwood	1,901	440	4,673	7,014
Hardwood	1,224	176	218	1,618
Total	3,125	616	4,891	8,632
Chittenden:				
Softwood	1,539	24	55	1,618
Hardwood	960	1,098	159	2,217
Total	2,499	1,122	214	3,835
Essex:				
Softwood	1,090	13	3,274	4,377
Hardwood	146	353	5,403	5,902
Total	1,236	366	8,677	10,279
Franklin:				
Softwood	429	560	260	1,249
Hardwood	1,251	2,501	616	4,368
Total	1,680	3,061	876	5,617
Grand Isle:				
Softwood	—	—	—	—
Hardwood	—	17	—	17
Total	—	17	—	17
Lamoille:				
Softwood	1,530	626	2,507	4,663
Hardwood	3,200	2,221	480	5,901
Total	4,730	2,847	2,987	10,564
Orange:				
Softwood	2,390	416	1,003	3,809
Hardwood	1,896	278	832	3,006
Total	4,286	694	1,835	6,815
Orleans:				
Softwood	331	90	2,398	2,819
Hardwood	194	2,841	476	3,511
Total	525	2,931	2,874	6,330
Rutland:				
Softwood	2,380	828	380	3,588
Hardwood	370	3,182	2,439	5,991
Total	2,750	4,010	2,819	9,579
Washington:				
Softwood	3,643	1,547	49	5,239
Hardwood	53	2,907	438	3,398
Total	3,696	4,454	487	8,637
Windham:				
Softwood	7,675	1,677	301	9,653
Hardwood	5,927	142	1,486	7,555
Total	13,602	1,819	1,787	17,208

Continued

Table 21.—Continued

County and species group	Retailed in the county	Shipped to other counties	Shipped out of state	Total production
Windsor:				
Softwood	4,046	1,064	1,243	6,353
Hardwood	3,499	3,272	2,344	9,115
Total	7,545	4,336	3,587	15,468
All counties:				
Softwood	29,801	8,758	16,665	55,224
Hardwood	30,336	21,044	18,569	69,949
Total	60,137	29,802	35,234	125,173

Table 22.—*Sawlog receipts in Vermont, by counties, species groups, and sources of logs, 1972*

[In thousands of board feet, International ¼-inch rule]

County and species group[1]	Source of logs			Total receipts
	Harvested within the county	Harvested in other counties	Harvested in other states	
Addison:				
Softwood	949	97	—	1,046
Hardwood	5,183	5,263	126	10,572
Total	6,132	5,360	126	11,618
Bennington:				
Softwood	1,898	447	509	2,854
Hardwood	6,433	1,572	1,909	9,914
Total	8,331	2,019	2,418	12,768
Caledonia:				
Softwood	1,901	1,031	59	2,991
Hardwood	1,224	789	3	2,016
Total	3,125	1,820	62	5,007
Chittenden:				
Softwood	1,539	2,641	—	4,180
Hardwood	960	3,864	—	4,824
Total	2,499	6,505	—	9,004
Essex:				
Softwood	1,090	124	1,798	3,012
Hardwood	146	83	4,178	4,407
Total	1,236	207	5,976	7,419
Franklin:				
Softwood	429	—	—	429
Hardwood	1,251	784	153	2,188
Total	1,680	784	153	2,617
Lamoille:				
Softwood	1,530	419	—	1,949
Hardwood	3,200	3,902	288	7,390
Total	4,730	4,321	288	9,339
Orange:				
Softwood	2,390	1,160	289	3,839
Hardwood	1,896	1,345	787	4,028
Total	4,286	2,505	1,076	7,867
Orleans:				
Softwood	331	67	—	398
Hardwood	194	—	—	194
Total	525	67	—	592

Continued

Table 22.—Continued

County and species group[1]	Source of logs: Harvested within the county	Harvested in other counties	Harvested in other states	Total receipts
Rutland:				
Softwood	2,380	320	—	2,700
Hardwood	370	153	—	523
Total	2,750	473	—	3,223
Washington:				
Softwood	3,643	78	—	3,721
Hardwood	53	—	—	53
Total	3,696	78	—	3,774
Windham:				
Softwood	7,675	376	3,072	11,123
Hardwood	5,927	2,364	1,113	9,404
Total	13,602	2,740	4,185	20,527
Windsor:				
Softwood	4,046	1,998	4,805	10,849
Hardwood	3,499	1,025	2,283	6,807
Total	7,545	3,023	7,088	17,656
All counties:				
Softwood	29,801	8,758	10,532	49,091
Hardwood	30,336	21,144	10,840	62,320
Total	60,137	29,902	21,372	111,411

[1]Counties with no receipts are omitted.

Table 23.—*Pulpwood production in Vermont, by types of pulpwood, 1963-1972*

[In thousands of rough cords[1]]

Year	All types	Type of pulpwood: Roundwood: Softwoods	Roundwood: Hardwoods	Chipped residues[2]
1963	173.8	110.5	45.0	18.3
1964	173.7	114.2	35.5	24.0
1965	150.1	87.0	26.0	37.1
1966	145.1	97.1	28.9	19.1
1967	147.0	93.8	33.7	19.5
5-year total	789.7	502.6	169.1	118.0
1968	149.4	83.2	37.6	28.6
1969	142.1	61.7	45.5	34.9
1970	149.3	75.7	49.1	24.5
1971	148.3	61.7	59.2	27.4
1972	166.6	56.9	78.6	31.1
5-year total	755.7	339.2	270.0	146.5

[1]128 cubic feet of wood, bark, and air space.
[2]Rough cord equivalents.

Table 24.—*Veneer-log production and receipts, by species and origin of logs, Vermont, 1972*

[In thousands of board feet, International ¼-inch log rule]

Species	Harvested and retained in Vermont	Exported to other states or provinces						Total production	Imported from other states or provinces					Total receipts
		Maine	New York	North Carolina	New Hampshire	Ontario	Quebec		Maine	Mass.	New Hampshire	New York	Quebec	
Ash	7	—	—	—	—	—	—	7	5	9	6	—	—	27
Basswood	21	—	—	—	—	—	—	21	217	32	3	53	—	326
Beech	2,447	—	25	—	—	—	—	2,472	—	—	181	857	—	3,485
Yellow birch	911	—	38	—	—	36	169	1,154	209	218	1,064	700	71	3,173
White birch	288	273	595	—	170	—	—	1,326	39	32	164	141	12	676
Elm	334	—	—	—	—	—	126	460	—	—	—	—	—	334
Hard maple	222	—	334	4	—	—	—	560	59	12	193	39	1	526
Soft maple	557	—	13	—	—	—	—	570	—	4	117	—	—	678
Oaks	220	—	187	—	—	—	—	407	38	139	182	566	12	1,157
All species	5,007	273	1,192	4	170	36	295	6,977	567	446	1,910	2,356	96	10,382

Table 25.—*Production and disposition of manufacturing residues, by types of residues, types of uses, and industry sources, Vermont, 1972*

[In thousands of cubic feet]

Source industry	Type of use	Type of residue			All types
		Bark	Coarse[1]	Fine[2]	
Lumber	Fiber	—	3,693	—	3,693
	Fuel[3]	286	906	238	1,430
	Agricultural[4]	944	—	2,998	3,942
	Other[5]	19	73	77	169
	All uses	1,249	4,672	3,313	9,234
	Unused	907	540	225	1,672
Veneer	Fiber	—	159	—	159
	Fuel	90	101	125	316
	Agricultural	13	—	120	133
	Other	—	65	—	65
	All uses	103	325	245	673
	Unused	81	—	—	81
Other industries	Fiber	—	—	—	—
	Fuel	10	79	—	89
	Agricultural	19	—	74	93
	Other	—	7	—	7
	All uses	29	86	74	189
	Unused	151	4	2	157
All industries	Fiber	—	3,852	—	3,852
	Fuel	386	1,086	363	1,835
	Agricultural	976	—	3,192	4,168
	Other	19	145	77	241
	All uses	1,381	5,083	3,632	10,096
	Unused	1,139	544	227	1,910

[1]Coarse residues include slabs, edgings, trimmings, and other material suitable for chipping.

[2]Fine residues include sawdust, shavings, and other material considered unsuitable for chipping.

[3]Includes domestic and industrial fuel.

[4]Includes livestock bedding, chicken litter, and farm and horticultural mulch.

[5]Includes fencing, small dimension, and novelty items.

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